

THE makers of ancient maps were accustomed to introduce pictures freely. In deserts there would be drawings of lions, and along rivers they made "river-horses," — which is the meaning of the Greek words that were put together to make up "hippopotamus." As for the oceans, they were filled up with any queer monsters that came to hand. Of course these pictures helped to hide great spaces that would otherwise have been staring blanks.

Besides, men understood very little about the strange happenings in the world around them, and invented fairy-tales to explain these mysteries. It is not remarkable, then, that so late as Columbus's time his sailors did not at all like to think of sailing westward into the unknown ocean full of such fabulous creatures and magic happenings. Even with all that wise and studious men have learned since, there is enough to be met with in a long ocean voyage to excite wonder and alarm.

Sailors may see auroras, the strange "Northern Lights," the cause of which is even now little more than guessed at; they may be surrounded by water-spouts, which are not entirely explained as yet; they may meet "tidal" (that is, earthquake) waves, that rise from thirty to sixty feet, or even more, above the surface; they may be amazed by "St. Elmo's fire," the sparkling flames that play about masts and rig-

ging; they may behold lightning in globe-form, sheet flashes, or forked bolts; they are sure to sail through the phosphorescence that has but lately been traced to animal life. Then, too, storms and calms, fogs and moonlight, bring strange sights.

Altogether, the ocean is a wonderland that has new marvels every day; the very color of the sea is hardly twice the same.

Yet, amid all these wonders, to one sight especially is the name "wonderful" applied in many languages — for *mirage*, coming from the Latin through the French, means simply "The Wonderful." Nor is it strange that the mirage should have won this name. Imagine that you are with the two fishermen in the picture on the next page. It is a hot, hazy day, and you are drifting lazily along over a quiet sea, when suddenly you hear an exclamation from one of the sailors. Looking up, you see him pointing above the horizon. Following the gesture, you are amazed at the sight that has made him cry out.

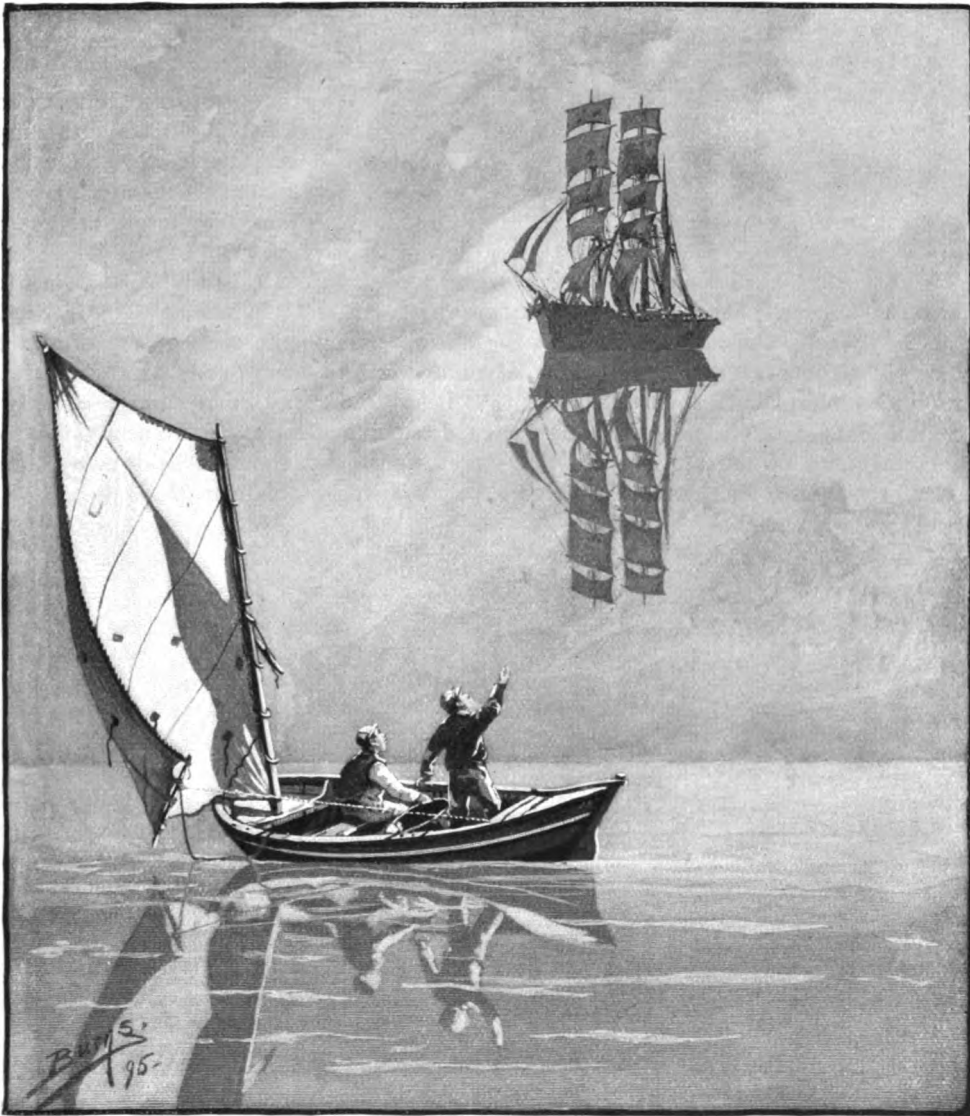
In the sky you see a bark with sails set, while, upside-down, floats its image just below. At times, it is said, the upper rigging also appears in a third image just above the horizon.

That is the *wonderful* sight — the mirage.

Books of adventure have made us all familiar with another form of the mirage. Travelers in the desert are often deceived by the appearance of a lake, upon the borders of which are seen trees

reflected in the glassy surface; but on attempting to approach the water, the thirsty travelers find themselves no nearer to the lake — it seems to tantalize them by keeping just out of reach.

layers of air differently heated. When these rays are so bent as to be almost level with a layer of air, they do not enter it at all, but (so to speak) glance off, and are reflected as if



A MIRAGE, AT SEA.

The cause of the mirage is now well understood — so well understood, that there are ways of making small mirages for experiment.

The simplest explanation that I can give is to say that the rays of light coming from the thing that is seen are bent in going through

from a mirror. Then the air reflects just as a glass mirror or a body of water would, if it lay between the eye and the trees or ship.

This explanation will give you a general idea of the cause of the mirage. In the case of the desert the reflecting air-mirror is believed by

the observer to be water, and the image changes its place as you go forward just as a reflection would move as you advanced on a glass mirror.



A DIAGRAM SHOWING THE REAL COURSE OF THE RAYS OF LIGHT (CURVED LINES), AND THEIR APPARENT COURSE (STRAIGHT LINES).

In the case of the ship, the air-mirror seems to be above you, and reflects the ship which is really out of sight over the horizon. But I do not pretend to explain all about the different images that may possibly be formed under different conditions of the atmosphere—that is a school-room task, and a hard one.

The "fata Morgana" is a form or modification of mirage often seen in the straits that separate the toe of the "boot" of Italy and the island of Sicily, just opposite. When the sun is just at the right position, and sea and air are also ready to help, strange views of objects upon the opposite coast are seen from Calabria—sometimes magnified, and set against a background of colored mists. "Fata Morgana" means the Fairy of the Sea.

It is said that sometimes, during a hot and still summer day, by placing the eye close to the surface of a dry road, a mirage can be seen; but I have never tried it.

Before these and other strange sights were understood and explained, we need not wonder that sailors and travelers held many strange beliefs in regard to them.

MASTER SKYLARK.

BY JOHN BENNETT.

[*Begun in the November number.*]

CHAPTER VIII.

THE ADMIRAL'S COMPANY.



THE ancient city of Coventry stands upon a little hill, with old St. Michael's steeple and the spire of Holy Trinity church rising above it against the sky; and, as the master-player and the boy came climbing upward from the south, walls, towers, chimneys, and red-tiled roofs were turned to gold by the glow of the setting sun.

To Nick it seemed as if a halo overhung the town—a ruddy glory and a wonder bright; for here the Grey Friars of the great monastery had played their holy mysteries and miracle-plays for over a hundred years; here the trade-guilds had held their pageants when the friars' day was done; here were all the wonders that old men told by winter fires.

People were coming and going through the gates like bees about a hive; and in the distance Nick could hear the sound of many voices, the rush of feet, wheels, and hoofs, and the shrill pipe of music. Here and there were little knots of country folk making holiday—a father and mother with a group of rosy children; a lad and his lass, spruce in new finery, and gay with bits of ribbon,—merry groups that were